

Remarks

A. Pending Claims

Claims 1-8, 10, and 11-21 are pending. Claim 9 has been canceled. Claims 8, 10, and 11 have been amended. Claims 12-21 are new.

B. Objections

The specification was objected to for informalities. The specification has been amended for clarification. Applicant submits no new matter has been added.

C. The Claims Are Not Anticipated by De Sousa et al. Pursuant To 35 U.S.C. §102(b)

Claims 1-5 and 8-11 were rejected under 35 U.S.C. §102(b) as being unpatentable over U.S. Patent No. 5,937,516 to De Sousa et al. (hereinafter "De Sousa"). Applicant respectfully disagrees with these rejections.

The standard for "anticipation" is one of fairly strict identity. A claim can only be anticipated if each and every element set forth in the claims is found to be either expressly or inherently described in the cited art. *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 728, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), MPEP §2131.

Claim 1 describes a method of manufacturing a catalytic converter that includes a combination of features including, but not limited to, the features of, "plastically deforming opposing ends of the liners into engagement with one another forming a cavity between the liners."

Amended claim 8 describes a combination of features of a catalytic converter including, but not limited to, the features of:

a second liner arranged about the first liner in spaced relationship therewith, wherein a first end of the first liner and a first end of the second liner are plastically deformed together, wherein a second end of the first liner and a second end of the second liner are plastically deformed together, and wherein the plastically deformed ends form a sealed cavity and provide a gap about the circumference of the first liner extending at least a length of the catalyst; ...

Support for the amendment comes from original claims 9 and 10.

De Sousa does not appear to teach or suggest the combination of features of claim 1 including, but not limited to, the features of: “plastically deforming opposing ends of the liners into engagement with one another forming a cavity between the liners”. De Sousa does not appear to teach or suggest the combination of features of claim 8, including, but not limited to, the feature of “wherein the plastically deformed ends form a sealed cavity and provide a gap about the circumference of the first liner extending at least a length of the catalyst”. De Sousa appears to teach spinning metal between rollers (i.e., spin forming) to achieve tapered reduction to form a shell for a catalytic converter. For example, De Sousa states:

Advantageously, this invention provides a method of spin forming articles that utilizes a forming tool having a plurality of forming rollers spaced at different distances from a spin axis. The rollers extend from the tool a variety of lengths with the longest rollers spaced furthest from the spin axis. During spinning, the longest roller located at the furthest distance from the spin axis first engages the work piece, achieving a first diameter reduction of the end of the work piece. As the tool and work piece continue to engage, the second longest roller, located at a second furthest distance from the spin axis engages the end of the work piece that has been reduced in diameter by the first roller, so that the second roller continues to reduce the diameter of the end of the work piece while the first roller continues to operate further into the work piece ...

Advantageously, according to an example, this invention provides a method of spin forming, comprising the steps of: spinning around a spin axis at least one member of a set comprising (i) a work piece and (ii) a tool; engaging the tool and a first end of the work piece to simultaneously form a plurality of conical diameter reduction portions on the first end of the work piece, wherein an axially aligned annular flat portion is formed between each two adjacent conical diameter reduction portions.

(De Sousa, col. 2, lines 9-41)

Applicant submits that De Sousa’s method appears to teach or suggest spin forming, not

plastic deformation. With respect to FIG. 15, at column 6, lines 19-25, De Sousa states:

An example heat shield 98 is provided with an annular lip 101 or a series of arcuately spaced tabs that extend radially until the shield 94 [sic] is placed over the casing 95, at which point the lip 101 or tabs are formed down on the ends 99 of casing 95 by a suitable pressing operation and may, if desired, also be welded in place.

The above quoted section appears to teach pressing an annular lip (or tabs) of the heat shield against the slanted portions of the casing on each end of the casing so that the geometry holds the two pieces together. As noted above, the pieces may be welded together if desired. At most, De Sousa appears to teach plastic deformation of the heat shield. De Sousa does not teach or suggest the features of claim 1 including “plastically deforming opposing ends of the liners into engagement with one another” in combination with the other features of claim 1. De Sousa does not appear to teach or suggest the features of claim 8 including “wherein a first end of the first liner and a first end of the second liner are plastically deformed together” in combination with the other feature of claim 8. De Sousa appears to only teach or suggest at most plastically deforming one liner (the heat shield) into engagement with another liner (the casing). Applicant respectfully requests removal of the rejections to claims 1 and 8.

Claim 2 states in part, “wherein the liners are cylindrical in shape.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 2, in combination with the other features of the claim.

Claim 3 states in part, “wherein step b) forms a conical flange having portions of the first and second liners overlapping and engaging one another.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 3, in combination with the other features of the claim.

Claim 4 states in part, “wherein step c) includes welding the connecting tubes to the flanges of the opposing ends.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 4, in combination with the other features of the claim.

Claim 5 states in part, “wherein step b) forms a sealed cavity between the first and second liners.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 5, in combination with the other features of the claim.

Amended claim 10 states in part, “wherein the connecting tube is secured to the conical flange by one or more weld beads.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 10, in combination with the other features of the claim.

Claim 11 states in part, “wherein said liners have a generally circular cross section perpendicular to a longitudinal axis of the catalytic converter.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 11, in combination with the other features of the claim.

D. The Claims Are Not Obvious Over De Sousa In View of Wieres et al. Pursuant To 35 U.S.C. §103(a)

Claims 6 and 7 were rejected under 35 U.S.C. §103(a) as being unpatentable over De Sousa in view of U.S. Patent No. 6,334,981 to Wieres (hereinafter “Wieres”). Applicant respectfully disagrees with this rejection.

In order to reject a claim as obvious, the Examiner has the burden of establishing a *prima facie* case of obviousness. *In re Warner et al.*, 379 F.2d 1011, 154 USPQ 173, 177-178 (C.C.P.A. 1967). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974), MPEP §2143.03.

For at least the reasons stated above, independent claim 1 is patentable over De Sousa.

Claim 6 states in part, “wherein the liners are spaced from one another approximately 0.25 inch or less forming an air gap.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 6, in combination with the other features of the claim.

Claim 7 states in part, “wherein the air gap extends circumferentially about the first liner and catalyst.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 7, in combination with the other features of the claim.

E. New Claims

Claim 12-21 are new. Support for claims 12-21 is found in Applicant’s in original claims 1-11 and in Applicant’s Specification at least in part on page 3, paragraph [0012] through page 4, paragraph [0015].

The combination of the features of claims 12-21 do not appear to be taught or suggested by the cited art.

F. Prior Art Made of Record

The Office Action states:

The prior art made of record and not relied upon is considered pertinent to applicant’s disclosure.

US 2006/0085980

US 2004/0081594

US 2005/0036923

US 5,293,743

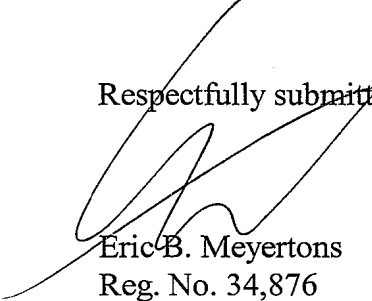
US 5,829,132

Applicant submits the prior art does not teach or suggest the features of claims 1-21.

G. Additional Remarks

Applicant believes no fees are due with the filing of this response. If any extension of time is required, Applicant hereby requests the appropriate extension of time. If any fees are due, the Commissioner is hereby authorized to deduct said fees from Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C. Deposit Account No. 50-1505/6068-00800/EBM.

Respectfully submitted,



Eric B. Meyertons
Reg. No. 34,876
Attorney for Applicant

MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C.
P.O. BOX 398
AUSTIN, TX 78767-0398
(512) 853-8800 (voice)
(512) 853-8801 (facsimile)

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